
Linking the Past and the Future

Building a Longitudinal & Predictive Child Support Knowledge Management System

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**Semi-Annual Performance Report of the Research Project
Data Warehousing/Data Mining Grant**

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PROJECT SUMMARY ABSTRACT

The project that we propose is under Priority Area I: Projects which Use Data Warehousing and Data Mining and Build Capacity of the State Agency (Operations and Management of the Program and Financing of the Program). In this conceptual framework, Washington State's Division of Child Support would be building its capacity to manage and make use of knowledge assets inside the Division to get maximum returns. This approach is especially urgent at a time of shrinking resources and increasing pressure to target dollars as wisely as possible and to perform at an unprecedented level.

In a Dear Colleague Letter,¹ several telephone conference calls were scheduled to solicit and to share information regarding states' efforts in using child support data to support performance and decision making. There is recognition that each state holds a treasure trove of administrative data that could serve innumerable purposes. The letter also states that "the nature of the databases in most States makes it difficult to fully utilize this data in a timely and cost-effective manner." States are in various stages of progress in creating data warehouses and data marts to extract the data and make it more accessible.

The State of Washington's Division of Child Support Enforcement has a history of data warehousing through its mainframe system, the Support Enforcement Management System (SEMS), which dates back to the 1980s. As is true with many states, however, the mainframe system's data are overwritten each month, destroying the historic record. The Management and Program Statistics (MAPS) unit within the Division has been capturing some of the data and storing it on CDs since 1996. The historic records, however, have never been linked and stored. If historic data are required for decision making or policy analysis, the data elements must be pulled off each CD and linked for that specific purpose. Because it is very time consuming and requires a considerable amount of storage space, it is rarely done.

Washington State has been at the forefront of increasing technological capacity. Yet much work remains to add historical data, integrate various databases, build on line tracking databases and develop statistical models that will enable staff with little training and limited quantitative and computer skills to predict outcomes and determine cause and effect. The Management and Program Statistics (MAPS) unit within the Division has developed an intranet-based information system, the Decision Support System (DSS), which is a point-and-click system that allows staff to access data and formulate ad hoc inquiries. Over time, the DSS has added more variables and has allowed access to data down to the individual case worker level.

Historical data will be loaded onto the server in such a manner that it can be accessed to form linked series of records. Any data share agreements not in place for social service

¹ Dear Colleague Letter (DCL-01-29), June 15, 2001.

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data will be obtained. Review of existing data share agreements will be done to ensure the data from other sources can be used in this manner. Technical training will be scheduled to enhance the skills of staff, building internal capacity.

Other internally held databases that have relevance to data mining will be accessed and added to the data mart. On-line database tracking systems will be completed in cooperation with the unit that does most of the Division's web-based work. On-line tutorials will be available with each new major module added.

In addition, SEMS created the e-model, which tracks case actions on the noncustodial parent down to the individual case worker level. Linking the e-model to outcomes will provide a feedback system to the case worker.

Progress to Date

Much of the first year was to require the acquisition of resources necessary to build a data mining process. Additional storage and processing equipment was to be secured. MAPS staff were to build the capacity of the beginning of a knowledge management system with the assistance of a technical network expert from SEMS. The first year has gotten off to a bumpy start, which has created delays in purchasing, scheduling training and subsequent work.

Lack of authorization to the State of Washington to expend money on the data mining grant by the federal Office of Child Support Enforcement resulted in a delay of three months. Because of this delay, no purchases could be made to begin the work on the grant.

As soon as expenditure permission was granted, purchasing began and technical training was scheduled. To date, all workstations have been received. The Network Area Storage (NAS) was ordered and assembled. Technical training on the NAS has not yet occurred. Transfer of data to the NAS will not occur until NAS training is complete.

Kent Meneghin attended the SAS Web Tools/Internet Administration. Ken Forgy and Tom Phan are attending the MCSE training, and are scheduled to attend the NAS training within the next few months. They will also attend a Tape Library technical training as well. Nina Woodward attended Levels 1 and 2 of FrontPage.

On January 8, 2002, Michael Rifkin, OCSE Federal Project Officer, held a teleconference. Carol Welch and Carl Formoso participated in sharing information about Washington State's project.

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Data Mining – Progress on Longitudinal Data Warehouse

In anticipation of the federal authorization for the grant, MAPS staff began assembling data and making arrangements for other data for a longitudinal data warehouse. The plan is to have data from January 1997 forward. To date, we have assembled monthly DCS records for all months except March 1997. We have requested that this file be retrieved from archives.

From other DCS sources, we have assembled longitudinal payment records from January 1999 through December 2001. We have requested the records for January 1997 through December 1998. This archive of payments will provide the historical record of payments and distributions for all cases. More recent payment records are available to us, and are being added to the archive of payments file.

Meetings with programming staff in SEMS have been held to increase access to wage and employment files. The goal is to provide wage and employment history on each individual parent in Washington State's IV-D administrative file, SEMS. Because the wage and employment records are retained on only those noncustodial parents with IV-D cases at the time of the match between the Division of Child Support (DCS) and the Employment Security Division (ESD), a noncustodial parent new to the IV-D system will have little or no historical information available. As we work toward completing a longitudinal database, we would like to have historical files on each parent from 1997 forward. To that end, MAPS staff have developed a strategy for obtaining earnings data that comes to us from ESD. To have earnings records for new clients who enter the IV-D system, it is necessary to duplicate ESD's historical data. This can be done with a one-time request to ESD, with current information filled in by SEMS programmers since DCS routinely receives current ESD data. We have begun to implement this plan.

In addition, MAPS staff modified the process used to create monthly IV-D current support collections by using raw payment data rather than summary data. This new process allows measurement of the federal incentive measure down to the individual Support Enforcement Officer (SEO) level. Having data and incentive measures down to the Individual SEO level is essential for building a case management feedback loop.

Time Line

The project began October 1, 2001, but authority to expend funds was delayed three months. The project is considered a three-year project, and continues through September 30, 2004. Work on the budget for year 2 has begun.